

NOTES ON THE NUMBER, LENGTH, AND WEIGHT OF YOUNG GARTER SNAKES

VASCO M. TANNER (1)

Professor of Zoology and Entomology
Brigham Young University

Since so little is known about the number, length and weight of young garter snakes the following information concerning the broods of *Thamnophis sirtalis parietalis* Say and *Thamnophis ordinoides vagrans* B. & G. is recorded at this time. For the past seven years broods of the two species have been observed both in the field and the laboratory. On August 5, 1945, three broods of *T. o. vagrans* were observed in the field, near the pond on the B. Y. University campus. Each female had several young with her, but I was unable to accurately count the number of young in each case. The females moved off into the grass when disturbed while the young followed after. One female stopped, coiled up a little, and four of the young ran into the coil. Again on August 3, 1946, I accidentally ran on to a brood of *T. s. parietalis* near the mill race, just north of the Provo City power plant. I was unable to determine the number of young since the female moved into the grass and water and was soon lost.

While returning from a Gull banding trip to Rock Island in Utah Lake on July 8, 1944, three gravid females of *T. s. parietalis* were collected by Wilmer W. Tanner and the writer in the swamps west of Palmyra on the south shore of Utah Lake. These were placed in separate breeding cages and supplied with fresh water. Each day they were observed. On the morning of August 2, two of the females had given birth to broods of 16 and 10 young snakes, while the third one produced five young and two unhatched eggs on August 7th. The largest brood of 16 young was designated as No. 1 and the other broods as No. 2 and No. 3. It will be noted that some specimens in broods No. 1 and 2 were kept in the cages for several days to see if they would feed on insects, and if they increased in length and weight.

Three boys hunting snake skins for belts captured a female *T. o. vagrans* on the B. Y. U. Campus along the canal near the stadium on July 29, 1944. When they began to skin the specimen, young snakes issued from the posterior abdominal incision. The boys brought the female and young snakes to me, explaining that they were surprised to find that this snake had eaten so many young ones. When the boys arrived with the snake, ten young live specimens were free while six live ones were soon liberated making a total of 16 live specimens; six embryos were observed which were not completely developed. This brood thus would have consisted of 22 individuals. The 16 live specimens were measured and weighed. The young, no doubt, would have been born during the early part of August.

In June 1949, a female *T. o. vagrans* was placed in a breeding cage in the laboratory for observation. On August 8th at 9 a.m. I observed that she had a brood of young. These were born Saturday or Sunday, August 6th or 7th since there were no young snakes on Friday, August 5th. Young snakes of both species were observed to molt on the second or third day after birth.

In the tables below the length and weight of species of each brood is recorded. The length is recorded in millimeters and the weight in grams.

(1) Contribution No. 120, Department of Zoology and Entomology.

The Young of *Thamnophis sirtalis parietalis*

Brood No. 1 August 2, 1944

Specimen No.	Length	Weight	Remarks
1	170	1.6	Specimen injured; measured and weighed Aug. 2.
2	223	2.3	Measured, weighed and preserved Aug. 6.
3	232	2.5	Digestive tract found to contain sand grains. Preserved Aug. 6.
4	230	2.5	Weighed, measured and preserved Aug. 6.
5	234	2.5	" " " " " "
6	223	2.3	" " " " " "
7	246	2.7	Measured, weighed and preserved Aug. 14.
8	238	2.6	" " " " " "
9	230	2.3	" " " " " "
10	245	2.4	" " " " " "
11	224	2.4	Following four specimens studied Aug. 25; they had been supplied with insects and fresh water since August 14.
12	228	2.2	
13	228	2.3	
14	233	2.3	
15	230	2.3	The following two specimens were measured and preserved September 14. They had been kept in a breeding cage with water and insects since August 14.
16	194	2.1	

The Young of *Thamnophis sirtalis parietalis*

Brood No. 2 August 2, 1944

1	200	2.4	Measured, weighed and preserved Aug. 6.
2	225	2.7	Microscopic study revealed sand grains in digestive tract. Preserved Aug. 6.
3	197	2.4	Measured, weighed and preserved Aug. 6.
4	230	2.7	Digestive tract revealed sand grains plus moulted scales which had been eaten. Preserved Aug. 6.

Specimen No.	Length	Weight	Remarks
5	220	2.8	Measured, weighed and preserved Aug. 6.
6	230	2.7	Measured, weighed and preserved Aug. 14.
7	220	2.4	" " " " " "
8	230	2.5	Measured, weighed and preserved Aug. 25.
9	222	2.3	" " " " " "
10	220	1.8	" " " " " "

The Young of *Thamnophis sirtalis parientalis*

Brood No. 3 August 7, 1944

1	225	2.3	This is one of the dead specimens. Measured and preserved Aug. 7, 1944.
2	184	2.2	This also is one of the dead specimens. Measured and preserved Aug. 7, 1944.
3	230	2.5	Measured and preserved Aug. 7, 1944.
4	216	2.3	" " " " " "
5	225	2.3	" " " " " "

The Young of *Thamnophis ordinoides vagrans* (July 29, 1944)

1	179	1.7	The 16 specimens were measured, weighed and preserved July 29, 1944.
2	191	2.2	
3	190	2.4	
4	183	2.1	
5	192	2.4	
6	183	2.0	
7	184	2.1	
8	186	2.2	
9	179	1.7	
10	186	2.2	
11	176	2.2	
12	167	1.4	

Specimen No. Length Weight Remarks

13	187	2.3	
14	187	2.1	
15	187	2.2	
16	181	1.9	

The Young of *Thamnophis sirtalis parietalis*

1	240	3.2	Measured, weighed and preserved Aug. 8.
2	220	2.5	" " " " " "
3	222	2.6	" " " " " "
4	220	2.8	" " " " " "
5	210	2.8	Measured, weighed and preserved Aug. 8.
6	227	2.1	" " " " " "
7	217	2.1	Measured, weighed and preserved Aug. 10.
8	223	2.6	" " " " " "
9	232	2.7	" " " " " "
10	242	2.9	" " " " " "
11	226	2.6	Measured, weighed and preserved Aug. 11.
12	230	2.5	" " " " " 12.
13	230	2.4	" " " " " 16

From the above data and observations of broods of *T. s. parietalis* and *T. o. vagrans*, in the vicinity of Provo, Utah, young are produced in early August of each year. The broods consist of 5 to 22 specimens, which range in length from 167 to 240 mm. and weigh 1.4 to 3.2 grams each. The red-sided garter snake young seem to be a little longer and weigh more than the wandering garter snakes. Nothing was found out about the food of the young snakes.